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# RECORDS OF AFRICAN BEES. II

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The abbreviations used are the same as in Part I (American Museum Novitates, No. 547).

**Euaspis abdominalis** (Fabricius)

Belgian Congo: Malela, July 9, 1915, ♀ (L. and C.). I have a specimen from Port Natal, from F. Smith's collection, which differs by the wholly black scutellum and the dark hair on hind legs, as well as other small features. This is *E. martini* Vachal, which Meyer (1921) regards as a variety of *E. rufiventris* Gerstaecker. Vachal's type came from "Cape Colony," probably actually from Natal. Smith included this in *E. abdominalis*. I have a genuine *E. abdominalis*, like that from the Congo, from Togo, Bismarckburg (R. Büttner). I am disposed to consider *E. martini* a valid species.

*E. abdominalis* was described (1793) as *Thynnus abdominalis*.

**Euaspis erythros** (Meunier)

Belgian Congo: Faradje, Nov., 1912, ♀; Boma, June 15, 1915, ♂; Matadi, June 9, 1915, ♂ (all L. and C.). The female is easily known by the horseshoe-like elevation on the apical sternite.

**Nomioides maculiventris** (Cameron)

In part I, p. 1, it was stated that this species visited an undetermined plant at Blaukrans. This has been determined at the Bolus Herbarium as *Galenia africana* Linnaeus (Aizoaceae).

**Mesotrichia seychellensis** (Cockerell)

Portuguese E. Africa: Mozambique, June 6, ♂, ♀ (J. O.); Porto Amelia, June 7, ♂ (J. O.); Beira, June 4, ♀ (J. O.).

Tanganyika Territory: Tanga, ♀, June 10 (J. O.); Vidoudi and Noludu Kivungu (C. F. M. Swynnerton); Ujiji, August, ♂ (Ckll.).

S. Rhodesia: Matopo Hills, April 17–30, ♂ (Mary Fryer); Beit Bridge, April 12, ♂ (J. O., A. M.).

Transvaal: Louis Trichardt, April 4–10, ♂ (J. O.).

This species has a curious history. Vachal and other authors of his period did not distinguish it from *M. caffra*. In my account (1912) of the bees of the Seychelles Islands I described both sexes, showing that the male was quite distinct from *M. caffra*, but of the female I could only say "like that of *M. caffra* but smaller, length about 18 mm." I called it *M. incerta seychellensis*, supposing it to be a race of *M. incerta* Pérez, based on a male from Nossi-Bé, an island off the northern coast of Madagascar. Miss LeVeque (1930) described the mite *Dinogamasus cockerelli* from the pouch of *M. incerta seychellensis* from the Seychelles. She found the same species of mite in what purported to be *M. caffra* from Delagoa Bay, and this remained an anomaly because *M. caffra* at Willowmore contains a different mite, *D. braunsi* Vitzthum.

Being now in possession of much better material than before, I have gone over the whole matter, with the following results.

(1)—The female of what I regard as true *M. caffra* (Linnaeus) comes from Willowmore (Brauns), Ceres (J. O., L. O.), and Huguenot (J. O.), all in the Cape Province. The wings are rosy brown, subhyaline, not at all blue-purple. In eastern South Africa this is replaced by a form with very dark, strongly blue-purple wings, which does not differ from *seychellensis*. Undoubtedly the Delagoa Bay "*caffra*" was the same insect, and so the apparently anomalous distribution of the mites is explained.

(2)—The males recorded above agree with male *seychellensis*. Their association with the females cannot be doubted, as in the Seychelles there is only one species.

(3)—The name *seychellensis* is unfortunate, as the species belongs to E. Africa, and there can now be little doubt that it was introduced into the islands with timber.

(4)—A careful analysis of the description of *M. incerta* (Pérez) shows that it cannot be this species. I have nothing exactly like it, and it presumably does not occur in continental Africa.

**Mesotrichia caloptera** (Pérez)

Portuguese E. Africa: Beira, June 4, ♂ (A. M.). This beautiful species, with splendidly violet wings, was previously known from a single example; Assinie (Alluaud).

**Mesotrichia apicalis** (Smith)

Belgian Congo: Tshibinda, Aug. 21–27, ♀ (J. O.). Two are typical, and a third has the hair on thorax above dull tawny. The distribution of this species is remarkable; we met with it also on the south slope of Montagu Pass, in the Cape Province, near the coast.

**Mesotrichia incandescens** Cockerell

Belgian Congo: a female from Dilolo, July 24–27 (A. M.), differs from the type in having the hair of thorax nearly all black, the red much reduced.

**Mesotrichia mixta** (Radoszkowski)

Transvaal: Louis Trichardt, April 4 (J. O.). A male, with short and scanty red hair on face.

**Mesotrichia mixta genuina** (Vachal)

Tanganyika Territory: Dar es Salaam, June 9 (J. O.).

S. Rhodesia: Christmas Pass, Umtali, May 20–21 (J. O., A. M.); Matopo Hills, April 17–30 (J. O.).

**Mesotrichia nigrita** (Fabricius)

Tanganyika Territory: Lidodi (C. F. M. Swynnerton).

**Mesotrichia mossambica** (Gribodo)

The following records are of females. Enderlein wrongly wrote "*mombassica*"; the name refers to Mozambique. The clypeus has a median groove.

Belgian Congo: Elisabethville, at flowers of *Solanum*, Sept. 12 (Ckll.).

S. Rhodesia: Victoria Falls, Sept. 23 (Ckll.); Beit Bridge, April 12 (A. M.); Matopo Hills, April 17–30 (J. O., L. O.).

**Mesotrichia flavescens** (Vachal)

Belgian Congo: Biano, Aug. 8–11 (J. O.). The head varies in size.

**Mesotrichia senior** (Vachal)

FEMALES

Tanganyika Territory: Tanga, June 10 (J. O., A. M.).

Belgian Congo: Albertville, Sept. 1 (Ckll.).

S. Rhodesia: Matopo Hills, April 17–30 (J. O.); Shangani, DeBeers Ranch, May 8–12 (J. O., A. M.); Christmas Pass, Umtali, May 20–21 (J. O.).

Transvaal: Louis Trichardt, April 4–10 (J. O., G. Abendorff).

MALES

Beira (J. O.); Tanga (J. O.); and a smaller form, presumably conspecific, from the Matopo Hills (J. O.) and Louis Trichardt (A. M., G. Abendorff).

These males doubtless belong to *M. senior*, but they do not agree with Enderlein's description of the male. The following little key to males will be of service.

1.—Clypeus black, with a yellow mark at each lower corner; very small species, with short hair on tergites (Beira, June 4, J. O.).....*caffrariae* Enderlein.
Clypeus with lower margin yellow, and at least part of a median yellow stripe (the clypeus is all black in *M. aestuans* (Linnaeus), and with a yellow border but no median stripe in *M. caffra* (Linnaeus).....2.
2.—Wings dark, strongly violaceous; hair of mid- and hind tarsi all black (Beira). *caloptera* Pérez.
Wings not very dark, or strongly violaceous.....3.
3.—Hair of hind tarsi all black; of mid-tarsi black with some long pale hairs at extreme base, and short reddish hair on inner side of joints 2 to 4 (Beit Bridge).....*seychellensis* Ckll.
Hind tarsi with much yellow or reddish hair.....4.
4.—Larger; black stripe on hind tibia more than half its length (Christmas Pass, Umtali, L. O.).....*somalica* Magretti. (♀ also from same place),
Smaller; black stripe on hind tibia less than half its length (Louis Trichardt). *senior* Vachal.

**Mesotrichia heterotricha** Cockerell

Cape Province: described from Huguenot, but also occurs at Ceres, Feb. 12–18 (J. O.). Only the female is known. It is a small slender species, with black hair on head above, much like *M. scioensis* (Gribodo), but wings paler, especially basally, and hair of face mixed black and gray, the effect dusky.

**Mesotrichia divisa** (Klug)

Transvaal: Louis Trichardt, April 4–10 (J. O.).

**Mesotrichia inconstans** (Smith)

Males. Beit Bridge, April 12 (A. M., J. O.); Louis Trichardt, April 4 (J. O.).

**Mesotrichia codinai** (Dusmat)

Belgian Congo: Eala, Oct. 15 (H. J. Brédo).

**Mesotrichia lepeletieri** (Enderlein)

Male. Island of San Thomé (H. de Saeger). I expected this to be an insular race or species, but can see no difference.

**Mesotrichia aestuans** (Linnaeus)

Sudan: Khor Arbaat Delta, April–May, Ushut bush, ♂ (H. B. Johnston).

**Mesotrichia luteola** (Lepeletier)

Belgian Congo: Dilolo, July (W. P. C.).

**Mesotrichia scioensis** (Gribodo) (**anicula** Vachal)

Belgian Congo: Kiambi, April 23 (G. F. de Witte); Albertville, Sept. 1 (Ckll.).

S. Rhodesia: Shangani, DeBeers Ranch, May 8–12 (J. O., L. O.).

Transvaal: Louis Trichardt, April (G. Adendorff).

Vachal says in his original account, "vertex with hairs black or canescent" (♀). They are black, and he probably mixed two things. He had both sexes from Tanga.

**Mesotrichia albicincta** (Enderlein)

S. Rhodesia: Victoria Falls, Sept. 23 (Ckll.).

**Lithurgus sparganotes** Schletterer

MALE.—Length about 14 mm., anterior wing 9; black, including mandibles, tegulae, and legs; flagellum obscurely rufous beneath, third antennal joint about as long as next two together; mandibles short, but very broad at base; face strongly rugose, without any distinct prominence, the surface dull, but a little shining line in middle of lower part of clypeus; eyes very dark brown; hair of face and cheeks rather dull white, stained with fulvous in region of mouth, vertex with black hair; mesothorax and scutellum minutely rugosopunctate and dull, without transverse plicae; thorax above with black hair, more or less mixed with pale, along anterior margin a band of inconspicuous dull white hair; metathorax with white hair, mesopleura with hair shading from grayish white to black; anterior coxae with long brownish-gray hair; wings dusky hyaline, somewhat darker apically; basal nervure falling far short of nervulus; second cubital cell receiving first recurrent nervure very near base, second recurrent meeting outer intercubitus; hind femora and tibiae strongly incrassate, with black hair; abdominal bands extremely slender, hair at end of abdomen and on venter black.

Belgian Congo: Stanleyville, March, 1915 (L. and C.). Both sexes were taken at Kisantu in 1927, by R. P. Vanderyst. Friese has given only a very short description of the male, less than three lines. The following key will facilitate the separation of a number of African *Lithurgus*.

1.—Females.....2.
Males.....9.
2.—Face with a large roof-like prominence extending outward below antennae....3.
Face with a large rugose swelling or low prominence.....5.
3.—Ventral scopa light orange fulvous; end of abdomen with red hair (Morocco).
*chrysurus* Fonscolombe.
Ventral scopa white.....4.
4.—Hair at apex of abdomen ferruginous (Morocco).....*cornutus* Fabricius.
Hair at apex of abdomen dark brown, shading into red (Morocco).
*cornutus* var. *obscurus* Ckll.

5.—Lower end of facial prominence with a shining dentiform process, directed downward; ventral scopa black.....*sparganotes* Schletterer.
Lower end of facial prominence without such a process.....6.
6.—Ventral scopa white; end of abdomen with reddish hair....*ovatus* Cameron.
Ventral scopa not white; end of abdomen with black hair.....7.
7.—Abdominal bands rather broad, very conspicuous, pure white; ventral scopa black, pallid basally.....*livingstonei* Ckll.
Abdominal bands very slender, not conspicuous except under a lens.....8.
8.—Face very rugose, with a median keel; ventral scopa black...*atratiformis* Ckll.
Face with a very obtuse rather shining transverse prominence, and no keel; ventral scopa pale dusky reddish.....*subrufus* Ckll.
9.—Sides of tergites showing light red hair; abdominal bands broad (Morocco). *cornutus* Fabricius.
Sides of tergites showing black hair.....10.
10.—Hair of thorax above mainly black.....*sparganotes* Schletterer.
Hair of thorax above not black.....11.
11.—Larger; hair of thorax above fulvous; abdominal bands broader. *capensis* Friese.
Smaller; hair of thorax above white; abdominal bands narrower. *ovatus* Cameron.

The female of *L. capensis*, which I do not possess, has a yellowish ventral scopa.

**Megachile marshalli** Friese

Angola: Capelongo, July 25, 1925 (Vernay Expedition). This is distinguished from two other females with white scopa as follows.

1.—Tegulae red (British E. Africa; Campi Simba, June 3–7, 1913, Dr. Bayer). *discolor* Smith.
Tegulae black.....2.
2.—Upper part of clypeus polished and shining in middle (Katanga; Lubudi, July 27, 1923, Ch. Seydel).....*neavei* Vachal (*semialba* Ckll.).
Clypeus dull, with no polished space.....*marshalli* Friese.

The type locality of *M. marshalli* is Salisbury, N. Rhodesia; more than a thousand miles east of Capelongo.

**Megachile ekuivella** Cockerell

Angola: Chitau, Aug. 1–12, 1925 (Vernay Expedition). Described from Angola.

**Megachile admixta** Cockerell

Angola: Capelongo, July 25, 1925 (Vernay Expedition). This is a variable and puzzling species: the present specimen (male) resembles the form found at Dilolo, Katanga.

**Heriades frontosus** Schletterer

Belgian Congo: Stanleyville, April 30, 1915 (L. and C.). The specimen is longer than usual, but the abdomen is much extended.

**Heriades communis** Cockerell

Belgian Congo: Faradje, Oct., 1912 (L. and C.).

**Heriades (Noteriades) chapini,** new species

FEMALE.—Length nearly 8 mm.; slender, black, including tegulae and legs, the mandibles obscurely rufous at apex, flagellum very obscurely rufescent beneath; wings basally hyaline, apically rather strongly dusky; basal nervure falling far short of nervulus; second cubital cell long, receiving first recurrent nervure far from base (the distance equal to more than half length of first intercubitus), and second near apex; ventral scopa shining white, with a very faint golden tinge; face narrow, orbits parallel; lower margin of clypeus straight; clypeus with sharp keel running its whole length, and above to about level of antennae; sculpture of clypeus consisting of obtuse ramiform ridges, but almost lacking on each side of keel; lateral keels of supraclypeal region little diverging below, reaching clypeus about half-way between middle and lateral corners; front dull, very coarsely rugosopunctate; lateral patches of white hair, at level of supraclypeal area, very little developed, not conspicuous; mesothorax dull, with dense, very coarse punctures; hind corners of mesothorax obtusely rectangular, not produced; scutellum extremely coarsely punctured, strongly produced and sharp-edged, the margin evenly rounded, the axillae not differentiated; postscutellum shining, minutely punctured; metathorax with a deep central pit, on each side of which the surface is shining; a dense patch of white hair in front of tegulae, and a narrow band just below wings; spurs pale reddish; pale orange hair on inner side of hind tarsi; abdomen shining, well punctured; the polished basin of first tergite sharply margined; dense, pure white abdominal bands at sides only of first three tergites, and lacking on the following ones.

Belgian Congo, Stanleyville, April, 1915 (L. and C.).

The species that have been referred to *Noteriades* are rather a miscellaneous lot, separable as follows.

1.—Clypeus broadly emarginate in middle, with a large rounded tubercle on each side of the emargination (Bulawayo, S. Rhodesia).....*bicornutus* Friese, ♀.
Clypeus not thus emarginate.....2.
2.—Clypeal keel not nearly reaching apex of clypeus; front coarsely and densely reticulate-punctate; robust species (Angola).....*ekuivensis* Ckll., ♀.
Clypeal keel running the whole length of clypeus.....3.
3.—Apical part of mandibles with a bright ferruginous mark; tegulae dark red (Bulawayo, S. Rhodesia).....*clypeatus* Friese, ♂.
Mandibles black, or with a little dusky red near apex; tegulae black.....4.
4.—Lateral keels of supraclypeal region strongly diverging below, going to upper corners of clypeus; posterior corners of mesothorax produced and pointed. *tricarinatus* (Bingham).

Lateral keels of supraclypeal region much less diverging, reaching clypeus about half-way between middle and lateral corners; hind corners of mesothorax obtusely rectangular, not produced; narrow species, with a conspicuously narrower face ..... *chapini* Ckll.

*H. quinquecostatus* Strand, which I have not seen, cannot be *H. chapini*, as the nervulus is subinterstitial; the tegulae are black, and the wings have the apical half strongly darkened, with violet iridescence. It is 8.8 mm. long.

**Tetralonia friesei** Meade-Waldo

Belgian Congo: Kando, Katanga, March, April, 1931, twenty males (G. F. de Witte).